contacting the purified sample with a binding medium comprising a strongly hydrophobic base matrix selected from the group consisting of: polydivinylbenzene, poly(styrene-divinylbenzene), polystyrene copolymers, polyethylene, and polypropylene;

rinsing the binding medium with an unbuffered aqueous solution; and

eluting the nucleic acid with [a non-toxic] an aqueous organic solvent.

Please cancel claim 2

3. (Reiterated) The method of claim 1, wherein the binding medium is a column comprised of particles having a diameter of about 1 micron to about 250 microns.

4. (Reiterated) The method of claim 3, wherein the binding medium is a column comprised of particles having a diameter of about 50 to about 75 microns.

6. (Reiterated) The method of claim 1, wherein the unbuffered aqueous solution is water.

7. (Reiterated) The method of claim 1, wherein the column is rinsed repeatedly to achieve an effluent conductivity following rinsing at or below 100 microSiemens/cm.

8.(Reiterated) The method of claim 7, wherein the column is rinsed repeatedly to achieve an effluent conductivity following rinsing at or below 25 microSiemens/cm.

9.(Reiterated) The method of claim 1, wherein the nucleic acid has been modified with a compound selected from the group consisting of: biotin, fluorescein and related dyes, spacers, thiol modifiers, amino modifiers, carboxylate modifiers, or any combination of these.

10.(Reiterated) The method of claim 1, wherein the nucleic acid is selected from the group consisting of: a DNA phosphodiester, RNA phosphodiester, phosphorothioate, methylphosphonate,

2'-O-methyl RNA, 2'-O-alkyl RNA, 2'-O-methyl DNA, 2'-O-alkyl DNA and chimeras containing such structures.

11.(Reiterated) The method of claim 1, wherein the nucleic acid comprises nucleotide bases selected from the group consisting of: 5-methylcytidine, inosine, halogenated uridines, etheno-bases, dideoxynucleosides, and inverted bases.

12. (Reiterated) The method of claim 1, wherein the nucleic acid is comprised of inverted 3'-5' linkages.

13.(Reiterated) The method of claim 1, wherein the nucleic acid is comprised of 5'-2' linkages.

14. (Reiterated) The method of claim 1, wherein the nucleic acid is an oligonucleotide comprised of about 2 to about 100 nucleotides.

15.(Reiterated) The method of claim 1, wherein the sample is the product of strong anion exchange chromatography.

16.(Reiterated) The method of claim 1, wherein the sample is the product of weak anion exchange chromatography.

17.(Reiterated) The method of claim 1, wherein the sample is derived from a biological source material.

18. (Amended) The method of claim 1, wherein the [non-toxic] aqueous organic solvent is an alcohol selected from the group consisting of n-propanol, isopropanol, and methanol.

19. (Amended) The method of claim 1, wherein the [non-toxic] aqueous organic solvent is aqueous ethanol.

20. (Amended) A method of exchanging a cation associated with a nucleic acid in a sample, comprising the steps of:

contacting a nucleic acid associated with a first cation with a binding medium comprising a strongly hydrophobic base matrix selected from the group consisting of: polydivinylbenzene, poly(styrene-divinylbenzene), polystyrene copolymers, polyethylene, and polypropylene;

rinsing the nucleic acid bound to the binding medium with an unbuffered aqueous solution prior to elution;

contacting the bound nucleic acid with a solution comprised of a second cation; and

eluting the nucleic acid associated with the second cation from the binding medium;

wherein the second cation effectively displaces the first cation in the effluent sample.

21. (Reiterated) The method of claim 1, wherein the nucleic acid is a monomer.

REMARKS

Claims 1, 3-4, 6-21 are pending in this application.

Claim 2 has been canceled and claims 1 and 18-20 have been amended to place the claims in better condition for allowance. Support for the amendments can be found throughout the specification, and in particular in original claim 2 and at page 14, lines 15-18. These claim amendments, in part, incorporate a limitation contained in a previously pending now canceled claim. Further, these amendments would not require further searching and as such their entry is respectfully requested.

Claims which have not been amended have been reiterated for the convenience of the Examiner.

No new matter has been added by any of these amendments.